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Blueberries in the Garden

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FOR ADDITIONAL INFORMATION ORDER

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Rank	Season (early to late)	Size of berry (large to small)	Dessert quality (good to poorer)	Color (light to dark blue)	Shipping quality (good to poorer)	Cold resist- ance (hardy to tenderer)	Bush shape (erect to spreading)
1....	Weymouth.	Dixi.	Stanley.	Stanley.	Jersey.	Wareham.	Rubel.
2....	June.	Atlantic.	Wareham.	Jersey.	Burlington.	Jersey.	Rancocas.
3....	Cabot.	Pemberton.	Pioneer.	Concord.	Rancocas.	Stanley.	June.
4....	Rancocas.	Scammell.	Dixi.	Atlantic.	Atlantic.	June.	Scammell.
5....	Stanley.	Jersey.	Atlantic.	Rubel.	Rubel.	Scammell.	Pemberton.
6....	Concord.	Weymouth.	Concord.	Burlington.	Wareham.	Rubel.	Stanley.
7....	Pioneer.	Concord.	Burlington.	Cabot.	Scammell.	Rancocas.	Jersey.
8....	Scammell. ¹	Stanley.	Pemberton.	Rancocas.	Pioneer.	Cabot.	Concord.
9....	Dixi.	Wareham.	Scammell.	Dixi.	June.	Concord.	Wareham.
10....	Atlantic.	Pioneer.	Rancocas.	Pioneer.	Stanley.	Pioneer.	Burlington.
11....	Pemberton.	June.	Rubel.	Scammell.	Pemberton.	(2)	Dixi.
12....	Rubel.	Burlington.	Jersey.	June.	Cabot.	(2)	Weymouth.
13....	Jersey.	Rancocas.	June.	Pemberton.	Concord.	(2)	Atlantic.
14....	Wareham.	Cabot.	Weymouth.	Weymouth.	(2)	(2)	Pioneer.
15....	Burlington.	Rubel.	Cabot.	Wareham.	(2)	(2)	Cabot.

The success of commercial growers of the cultivated blueberry over a wide area in northern United States has aroused much interest in this plant both for garden and landscape use. Its peculiar soil requirements discourage general field planting for there is little chance of successful commercial crops with the usual type of agricultural soil. By furnishing satisfactory conditions, however, an interested gardener may grow a plot of fruitful plants

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NEW JERSEY AGRICULTURAL EXPERIMENT STATION
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that will be a source of pride to him. Blueberries should do well under conditions favorable to rhododendrons.

Blueberry bushes have a special appeal to many persons for landscape use, as individual bushes, mass plantings, or in hedges. The bare bushes in winter, the spring bloom, and the foliage in summer and autumn are attractive and fit well into many landscapes. If the bushes are not covered with netting to protect the crop, they are especially attractive in July. The development of such a planting should be worked out for each individual spot.

The districts growing blueberries best have some freezing weather during the winter but rarely a minimum of 20 degrees below zero, as such extreme cold kills the fruit buds. Some gardeners in the colder climates protect their blueberry bushes with straw tied around the tops during the winter. Frosts after growth starts may ruin the bloom and crop, but such troubles are more common in the low-lying commercial fields than they would be in the garden.

Soil Management Is Most Important

Most commercial fields have a peat-sand or peat-loam soil that is acid and moist. The water table usually is about 18 to 24 inches below the surface. This level keeps the soil somewhat moist but allows good drainage at the surface. Fields are usually made by draining swamps or low areas where the peat and sand are found, clearing the land of its natural growth, and mixing the soil well before planting. A few fields are on deep peat with little or no sand present. Such soil may be fairly satisfactory if the acidity is below pH 5.

Where soils like these are available in the home garden, blueberries should grow well. In most New Jersey gardens, however, the soil is loamy sand, loam, or clay loam in texture and is relatively low in organic matter. If the soil is sandy, rather acid, and has had a wild growth of blueberries, laurel, or rhododendrons, then as much as possible of the natural peat should be retained and worked into the soil. If additional peat can be brought in, it will help. If the soil is distinctly dry, some form of irrigation, probably of the sprinkler type, may be necessary to ensure good growth. If the soil is reasonably moist, a mulch deep enough to control weeds will conserve sufficient moisture. Salt hay, sawdust, or leaves will make a satisfactory covering, but any strawy material will do. Where clean cultivation is especially desired, the surface soil may be worked with a hoe or iron rake and water supplied, by irrigation, as needed in dry weather. On loam and clay loam soils with fair moisture content, a mulch will usually hold enough moisture. Very compact, poorly aerated, and poorly drained soils should be avoided, as the plants may die if water stands around them during the growing season.

Where a mulch of organic material is applied, especially on the lighter soils, the soil microorganisms which cause decay of the organic matter will multiply rapidly and tie up nitrogen from the soil in their own bodies, and the plants may suffer from a deficiency of this element. Later when the organisms die, this nitrogen will be released and may be used by the plants. When the mulch is first applied to a soil naturally rather low in nitrogen, about twice as much nitrogen should be applied in the fertilizer as would

be used on that soil if it were not mulched. The procedure in following years may be judged from the appearance of the plants: enough nitrogen should be used to maintain good growth and a dark green leaf color.

Where natural conditions are far from favorable, it is possible to make up a soil suitable for blueberries. Wet spots can be drained and made into blueberry beds with very little additional trouble. Clay or well-limed land offers most obstacles to the blueberry gardener. Under extreme conditions, a trench may be dug 4 feet wide, 2 feet deep, and long enough to hold the number of plants wanted when spaced 4 to 6 feet apart. The trench is then filled with a mixture of one part sand or sandy soil, one part thoroughly rotted leaf mold, and one part weathered sawdust, shredded peat, or partly rotted oak leaves. If drainage is difficult to accomplish, the bed may be partly raised or even built above the ground level and the sloping sides sodded to prevent erosion. The plants are set in the middle of a bed so formed and are then watered and mulched. Watering will be necessary whenever the soil becomes dry.

The plants need commercial fertilizer for best growth. The mixture to be used depends on the fertility of the land, but as an example, well-fertilized fields use 7-7-7 or 5-10-5 at the rate of one half pound to a large bush. This is spread evenly over the area between 6 inches from the plant and 2 feet away, soon after the plants start to grow in spring. A top-dressing of nitrate of soda or sulfate of ammonia, 2 to 3 ounces to a large bush, may be added in June if the plants appear to lack vigor. The sulfate of ammonia seems to give good results when the soil has a pH value above 5.5, and the nitrate of soda when the pH is lower.

Set Vigorous, Well-Grown Plants

Blueberry plants may be bought from nurseries or from growers in the blueberry region. The usual plants have been in a cutting bed for one year and in a nursery row for another year. They have a vigorous growth and are 12 to 24 inches high. The lower figure is for Cabot, which is a spreading variety. Plants of this age are called "2-year old plants."

Usually, plantings in March and April do best, although planting in September is satisfactory. Bushes are set out at the same depth they were in the nursery and watered well. All fruit buds should be removed at once and the plant pruned to not more than three main stems. If the soil conditions are right, vigorous bush growth occurs throughout the first year.

The more common and well-established varieties are Cabot and June for early fruit; Rancocas, early midseason; Stanley and Concord, midseason; and Rubel and Jersey, late. Newer varieties that have larger fruit but have not been tested over so long a period are Weymouth for early fruit; Pemberton, Atlantic, and Dixi for midseason; and Burlington for later berries. At least two varieties should be used to assure cross pollination. All except Cabot grow to a height of 6 to 8 feet under good conditions and bear large fruit. Bushes in the best of condition may bear over 5 quarts to the bush, but few commercial fields average that much.

Bushes Must Be Pruned

In order to grow large fruit and keep bushes vigorous, considerable pruning is necessary. The large round fruit buds at the ends of the twigs must be distinguished from the small pointed leaf buds. The first operation is to remove the short twiggy growth which usually develops where fruiting was heavy the previous year. A fruiting lateral or stem should have a 3- or 4-inch section bearing leaf buds. Tipping the lateral back so that it has not more than five fruit buds assures larger berries. The rest of the bush can be thinned after it is 4 or 5 years old. This thinning should consist of taking out the oldest canes to stimulate the growth of young, vigorous shoots. It is a good plan to have the fruit buds well distributed over the bush rather than only at the top.

Insects and Birds May Cause Trouble

The insects that attack blueberries in the garden are usually the ones common on shrubs in the neighborhood. Rose bug, Japanese beetle, Putnam scale, fall web worm, and apple tent caterpillar will work on the bush if they are allowed in the garden at all. Control measures vary with the pest and the location. Up-to-date information concerning insects of the locality can usually be obtained from the county agricultural agent.

Birds are the chief pests when the fruit is ripe. Scarecrows, glass and tin tinkling in the wind, and automatic explosions at short intervals have been tried, but all lose their effectiveness in a short time. Nearness to a dense hedge increases losses because birds avail themselves of tight cover for safety. The best protection is a cover of cloth, such as tobacco cloth or aster cloth. It is put on the bushes or supported over them like a tent when the first berries start to ripen. Ordinarily, the cloth should last several years. A cloth cover will also afford protection from Japanese beetle and rose bug.

Pick the Fruit Promptly

It is a good plan to pick the ripe fruit as soon as the color extends to the stem. Picking once a week is not too often. Prompt picking greatly reduces the danger of losses from insects and ensures firm fruit.

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Growers of Cultivated Blueberry Plants